



THE UNIVERSITY *of* EDINBURGH

## Edinburgh Research Explorer

### Flows of Knowledge, Expertise and Influence

**Citation for published version:**

Meagher, L, Lyall, C & Nutley, S 2008, 'Flows of Knowledge, Expertise and Influence: A Method for Assessing Policy and Practice Impacts from Social Science Research', *Research Evaluation*, vol. 17, no. 3, pp. 163-173. <https://doi.org/10.3152/095820208X331720>

**Digital Object Identifier (DOI):**

[10.3152/095820208X331720](https://doi.org/10.3152/095820208X331720)

**Link:**

[Link to publication record in Edinburgh Research Explorer](#)

**Document Version:**

Early version, also known as pre-print

**Published In:**

Research Evaluation

**Publisher Rights Statement:**

This is a pre-copy-editing, author-produced PDF of an article accepted for publication in <insert journal title> following peer review. The definitive publisher-authenticated version: Meagher, L., Lyall, C., & Nutley, S. (2008). Flows of Knowledge, Expertise and Influence: A Method for Assessing Policy and Practice Impacts from Social Science Research. *Research Evaluation*, 17(3), 163-173, is available online at: <http://dx.doi.org/10.3152/095820208X331720>

**General rights**

Copyright for the publications made accessible via the Edinburgh Research Explorer is retained by the author(s) and / or other copyright owners and it is a condition of accessing these publications that users recognise and abide by the legal requirements associated with these rights.

**Take down policy**

The University of Edinburgh has made every reasonable effort to ensure that Edinburgh Research Explorer content complies with UK legislation. If you believe that the public display of this file breaches copyright please contact [openaccess@ed.ac.uk](mailto:openaccess@ed.ac.uk) providing details, and we will remove access to the work immediately and investigate your claim.



Revised version submitted to *Futures* July 2008 following peer review.

Now published as Meagher, L., Lyall, C., & Nutley, S. (2008). Flows of knowledge, expertise and influence: a method for assessing policy and practice impacts from social science research. *Research Evaluation*, 17(3), 163-173, doi: 10.3152/095820208X331720

**Flows of knowledge, expertise and influence: a method for assessing policy and practice impacts from social science research**

**Laura Meagher, Catherine Lyall and Sandra Nutley**

Dr Laura Meagher is Senior Partner at the Technology Development Group, Fife.

Dr Catherine Lyall (Corresponding author) is Deputy Director of the ESRC Innogen Centre, University of Edinburgh, High School Yards, Edinburgh, EH1 1LZ, UK. Tel: 44 131 650 2452; Email: c.lyall@ed.ac.uk.

Sandra Nutley is Professor of Public Management in the University of Edinburgh Business School.

## **Flows of knowledge, expertise and influence: a method for assessing policy and practice impacts from social science research**

### **Abstract**

Social science research undoubtedly does impact on public policy and practice but such non-academic impacts are rarely amenable to precise, quantitative metrics. In the interests of accountability, it is however possible to find proxy indicators of connectivity with research users and these may form steps toward impacts. Understanding these connections can lead to a deeper appreciation of the factors that shape the processes leading to research uptake. This study adopted a detailed and largely qualitative approach to identify the flows of knowledge, expertise and influence that take place during the process of knowledge transfer in order to trial a method for assessing policy and practice impacts from social science research. As a corollary to this assessment, the study further identified five factors that can influence and enhance the process of knowledge exchange between researchers and users.

**Keywords:** research impact; knowledge transfer; evidence-based policy

## Introduction

Increasingly, in this era of the “Knowledge Economy”, national governments seek return on their investments in research. Research funding bodies are asked not only to promote knowledge transfer (HM Treasury 2007 *passim*; RELU 2007:4) but also to evaluate funding schemes and identify when funded research makes a difference. In the UK, for example, the Lambert Review of Business-University Collaboration (2003) made a series of recommendations aimed at enabling knowledge transfer between Britain’s strong research base and the business community. Following the Lambert Review, the House of Commons Select Committee Inquiry into Knowledge Transfer and the External Challenge Report on Research Council Knowledge Transfer (the “Warry Report”) of 2006 exhorted Research Councils to increase their economic impact (with “economic” defined broadly enough to include policy, practice and other dimensions of importance to society) and improve public health and quality of life through the research that they fund. As a consequence, the UK Research Councils are increasing their efforts to demonstrate how their support for research, training and knowledge transfer contributes to these goals (RCUK, 2006; 2007). So, for example, Research Councils UK (RCUK) developed an action plan for *Increasing the Economic Impact of the Research Councils*. The RCUK’s *Excellence with Impact* report (Research Councils UK 2007) documents “progress in implementing the recommendations of the Warry Report on the economic impact of the Research Councils” but calls for still more to be done in promoting pro-active knowledge transfer and connectivity with users.

In many ways, those funding bodies that support research in the natural and physical sciences and engineering may find it relatively straightforward to point to tangible impacts in terms of intellectual property generated or indeed to the economic contributions of spinout companies. More elusive, however, are cases in which transfer of knowledge from the social sciences (as well as the arts and humanities) may have had an impact on public policy or professional practice. Yet, basing public policy and practice upon sound research and evidence is cited frequently as a desirable social good – one toward which research funding bodies, researchers, policymakers and practitioners should aspire (Davies *et al*, 2000).

New approaches, indicators and insights are called for to identify and enable processes generating such non-academic impacts. In particular, this challenge is being tackled by the UK’s Economic and Social Research Council (ESRC), which has recently sought to develop new approaches to the assessment of research impacts in the worlds of public policy-making and the delivery of public services (largely through professional practitioners such as doctors, teachers and social workers). This paper reports on some of the methodological issues raised by a study commissioned by the ESRC to investigate new approaches to assessing the policy and practice impacts of psychology research (Meagher and Lyall, 2007). The main aims and objectives of that study are summarised in Table 1. Challenges run throughout this remit, not least because such impacts are: diffuse, subtle, diverse, and long-term and causality cannot be readily ascribed (e.g. Davies *et al*, 2005). The study therefore raised a number of methodological issues pertinent to the wider assessment of non-academic research impact and may offer some lessons for future developments in facilitating and assessing knowledge transfer in the social sciences.

The project team was asked to assess the impacts of a group of responsive-mode ESRC projects and fellowships awarded in the field of psychology, ending in the years 1998, 2001 and 2004. We did find that some of this funded research had led to tangible impacts on policy and practice. Even more appear to have led to less tangible, conceptual impacts, contributing to a changed awareness regarding particular issues. A small majority (57%) of awardholders who responded to the survey considered that their research had had an impact beyond the research community, although they found this difficult to document precisely. Most often evidence of impact was provided in the form of contacts made with people in policy and practice roles. Policy users cited by awardholders ranged across UK

government departments, the devolved administrations, local health boards and education authorities. Practitioners cited included educators, speech and language therapists, social workers, child welfare practitioners, special needs coordinators, employment recruiters, police officers, nurses and clinicians. Researchers also cited representative or lobbying groups as benefiting from their research<sup>1</sup>.

As a commissioned study, we followed the ESRC's remit to focus on the policy and practice impacts of the funded research projects. In effect this meant focusing on public policy and public service users as few of the projects studied appeared to link to private sector users. We concentrated on those specific research users rather than broader beneficiaries (Caswill, 1994), which means that we did not directly assess the possible impact of the research studies on the wider public. However, we did consider media coverage and comments were made about wider impact by those we surveyed and interviewed.

The study also focused on the most immediate channels through which research knowledge flows into policy and practice worlds. There are, of course, many indirect ways in which social science research has an impact. For example, students of all kinds are important individual knowledge brokers. However, our study did not specifically consider the extent to which research findings were incorporated into university training courses, nor were students' subsequent destinations traced. We therefore acknowledge that the study did not attempt to address all possible channels and forms of non-academic impact.

In addressing this more tightly defined range of channels and forms of non-academic impact we adopted a multi-method approach comprising project case studies, surveys, focus groups, document analysis and semi-structured interviews. This not only provided identification of types of impacts and processes of research impacts within various contexts, but also, we hope, contributes to method development in this area.

## Background

We have previously reviewed some of the knowledge transfer literature (Lyll *et al*, 2004) and emphasised the indirect and non-linear nature of such research impacts. Indeed, the very term "knowledge transfer" conjures up the image of a one-way flow of knowledge. In the light of this, some publications have used the alternative term of "knowledge exchange" (e.g. SFC 2007). However, this paper continues to use "knowledge transfer" because of its common currency but in doing so, the authors seek to divest it of any linear assumptions.

Molas-Gallart *et al* (2002) discuss the main strengths and weaknesses of a range of indicators for non-academic research impacts and conclude that collecting such indicators is difficult as many knowledge transfer activities are based on personal connections between individuals. These relationships are not well understood by either universities or research funders, who therefore find it difficult to identify and measure such tacit processes. In many cases informal channels for knowledge transfer may be more significant than formal means (Faulkner and Senker, 1995). Nevertheless, there has been progress in this field and Molas-Gallart *et al* (2002) distinguish two main sets of indicators: indicators of activity and indicators of impact. Nutley *et al* (2007) suggest that learning about research impact processes (ie developing indicators of activity) is a more attainable goal than assembling robust evidence of impact, and that any lack of evidence of research impact on policy and practice reflects more an absence of evidence rather than evidence of absence.

Measuring non-academic impacts of research is difficult for the following reasons:

---

<sup>1</sup> Whilst a more detailed account of the results would undoubtedly be helpful, the full report has not yet been published by ESRC and we therefore need to limit ourselves to only a broad description of the study's findings.

- Timing – it is generally recognised that the impact of academic research is long-term and often indirect
- Problems identifying additionality – would the “effects” we are trying to measure have occurred anyway?
- Serendipity - the outcomes, and therefore the impact, of research activities are by their very nature unpredictable. Serendipity is an important element but it may be difficult to trace the results of such chance uptake.

Activities to increase research uptake do not necessarily result in significant impact. Reaching all potential users, even within one area of application, even within one country, is impossible; even reaching many is difficult and can take a long time. Lack of research uptake may occur not because of any shortcomings in a set of research results or the dissemination strategy used, but because potential users are unwilling or unable to exploit the opportunities presented to them (Molas-Gallart *et al* 1999). Bechhofer *et al* (2001) argue that the user’s capacity to exploit research depends partly on the user’s readiness and ability to absorb externally generated knowledge. Users are not passive recipients of research output; they use research knowledge in combination with their existing technical and social knowledge. They also operate in a dynamic political context. Policy-makers work with multiple and shifting political agendas, often short timeframes for action, which have a significant influence on their engagement with research findings. It is important to remember that these and other factors that influence impact, such as the nature and role of knowledge intermediaries and the heterogeneity of researchers and users, are not static but interact over time, giving a dynamic dimension to the process of knowledge flows.

In the context of these informal, complex and dynamic processes, it is argued that the preferable way to determine the non-academic impacts of socio-economic research programmes is through detailed project-by-project qualitative analysis (Molas-Gallart *et al* 2000). Direct questioning of researchers and research users may help to tease out the extent of research impact. However, such assessments will “always be qualitative and based on qualified statements” (Molas-Gallart *et al* 1999).

Within this study, we attempted to identify *both* specific examples of impacts resulting from particular grants *and* illuminate the various processes through which research has been utilised in policy and practice. This understanding of *how* a particular set of funded research efforts has brought about changes should: 1) contribute insights into methods for assessing and identifying actual impacts in future studies; and 2) offer pragmatic insights into key issues and implementation mechanisms that will enhance the likelihood of impacts.

The approaches adopted for this study were designed to be “purposeful, pragmatic and cognisant of the complexities involved” (Davies *et al* 2005). This article first describes the conceptual framework which underpinned the research design before describing the approach and methods developed for this study; it then reflects critically on the methods used.

## **Approach and methods**

### ***Modelling research impacts***

Although other definitions exist for the main types of research use and impacts, in this study we use the following definitions (Nutley *et al* 2007: 36):

“instrumental use or impact” refers to the direct impact of research on policy and practice decisions where a specific piece of research is used in making a specific decision or in defining the solution to a specific problem.

“conceptual use or impact” is a more wide-ranging definition of research use, comprising the complex and often indirect ways in which research can have an impact on the knowledge, understanding and attitudes of policy makers and practitioners.

Nutley *et al* (ibid) suggest that conceptual use happens where research changes ways of thinking, alerting policy makers and practitioners to an issue, and when it plays a more general ‘consciousness-raising role’. They note that, while such uses of research may be less demonstrable, they are not less important than more instrumental forms of use.

As our task was to identify the impact of a specific set of grant-funded research projects, we adopted a forward-tracking methodological approach – one which tracks forward from research to research use and on to research impacts. However, we sought to avoid assuming an overly linear pathway between research products and research impacts and we also aimed to recognise the wide variety of groups and individuals engaged in connecting research and policy/practice. The conceptual framework we developed to underpin the research design for this study (Figure 1) thus drew on a growing body of literature on understanding and assessing research impact which highlights the importance of network interaction and multiple flows of knowledge (e.g. Davies *et al* 2005; Hanney *et al* 2002; Lavis *et al*, 2003; Molas-Gallart *et al* 2000).

Our conceptual framework aimed to highlight the main categories of actors, their roles, and the likely flows of knowledge, expertise and influence between them. It takes its cue from the “linkage and exchange model” of the research-policy relationship developed by the Canadian Health Services Research Foundation (see CHSRF, 2000; Lomas, 2000). Throughout the project our model was used as a framework for viewing the various components of the study within an integrated whole. In using the model we recognised that research knowledge can take many forms (i.e. not just knowing ‘what works’ but also knowing ‘how things work’ and knowing ‘why things happen’) and that these different forms of knowledge are likely to impact in different ways (ranging on a spectrum from direct instrumental impact to indirect conceptual impact). The model was revised and refined as the project developed. As well as indicating the different categories of actors engaged in the knowledge transfer process, as we gathered data and analysed our findings, we endeavoured to illustrate the varying strengths of interactions between them through the use of different line weightings in the framework. We also included single and double arrows to suggest the predominant direction of knowledge flows.

### **Study sample**

The study sample was a set of 134 responsive-mode awards (given to individuals submitting their own research ideas, with no theme or subject specified by the funder) made by the ESRC in psychology and spread over three cohorts (grants of three years’ duration which ended in 1998, 2001 and 2004).

### **Framework of core questions**

We used the conceptual framework to develop a framework of core questions (Table 2) which aimed to assess user-engagement, actual impacts and impact-generating processes. We identified for each question the method(s) most likely to generate relevant information

and these core questions formed the basis for the interview topic guide and survey questions. The conceptual framework and the framework of core questions ensured coverage of all key facets of the study, and also facilitated the integration of findings across methods in the final analysis.

### ***Content analysis***

All ESRC end-of-award reports for the three year cohorts were analysed along with accompanying rapporteurs' evaluations. On the premise that connectivity with users heightens the chances of impact, we looked for indications of connectivity or orientation toward users as "proxy indicators" as well as any indications of real or potential impacts. The content analysis paid particular attention to research objectives (which were reviewed for orientation toward users) and achievements (which were reviewed for implementation of connection with users). Reported activities, outputs, impacts, dissemination and audience descriptions were assessed for relevance to, or connection, with users. Particular note was taken of those reports which cited specific users (organisations or individuals) and each project was ranked for user connectivity on the following scale:

- Genuine engagement of users during the project
- Dissemination
- Planned dissemination
- Recognition of possible relevance
- Exclusively academic approach

### ***Survey of award-holders***

A four-page questionnaire comprising a mix of Lickert scale, pre-coded and free text response modes was designed and piloted and emailed to 109 awardholders seeking information about non-academic research impacts arising from their award and the activities the researcher had undertaken which may have fostered impacts.

### ***Survey of Heads of Departments of Psychology***

A very short survey was also circulated via the Association of Heads of Psychology Departments (AHPD) to its members which sought to identify the types of user communities with which their department engaged and the type of non-academic impacts arising from research conducted by their department. This was done to situate the information gained from research grant holders within the broader context of the practice of psychology research.

### ***Focus group***

Two focus groups, each consisting of ten Heads of Psychology Departments, were conducted during an AHPD meeting. These provided further valuable insights into the contexts within which researchers do or do not connect with users and how impacts might be generated; they also helped to identify key users. A subsequent AHPD meeting provided feedback on draft recommendations for enhancing impacts – and the group decided to explore knowledge transfer further.

### ***Semi-structured interviews***

Twenty semi-structured, telephone interviews of 45-60 minutes duration were conducted, each guided by an appropriate topic guide. In addition to the case-study interviews



(described below), we also included seven “overview” interviews, comprising four with users who had served on the Users Sub-Panel of the 2001 Research Assessment Exercise (RAE) Psychology Assessment, and one each with: a senior researcher active in assessment across the field, a funder, and a knowledge intermediary in a key representative organisation.

### ***Media-related searches***

Press releases from ESRC and the British Psychological Society were reviewed for stories that highlighted work by cohort award-holders. However, there is no guarantee that the work cited is specifically that of a particular ESRC project; the supposition was that ESRC funding contributed to the individual’s overall knowledge/standing that led to the particular news story.

### ***Case studies<sup>2</sup>***

We identified a number of clusters of awards and identified and developed a case study of one particular award within each of these clusters. The aim of each case study was to assess user engagement, impacts and impact-generating processes. The four subject-based clusters were:

1. Learning (e.g. children’s behaviour while thinking, cognitive change in autism, learning disabilities)
2. Language (e.g. specific language impairments, aphasia, linguistics)
3. Social Psychology (e.g. risks for young people, prejudice, parenting/family relationships)
4. Criminal Justice (e.g. deceit detection, identification, interviewing).

A fifth case study was developed to investigate whether, and how, a departmental environment might foster the generation of non-academic impacts. This case study was based on the Department of Psychology at the University of Cardiff which was recommended and commended by several interviewees. The department has a dual orientation toward excellent basic research and research application, and it had received five awards in the cohorts studied.

The choice of case study projects for each cluster deliberately sought to identify likely success stories, which has been recommended as an appropriate approach to case study selection in circumstances such as those faced in this evaluation (Davies et al 2005). By aggregating information from end-of-award reports and award-holder surveys, several likely success stories were identified. Award-holders were selected who showed a high degree of connectivity with users and/or a willingness to reflect on knowledge transfer and impact generation. Case study narratives were developed from interviews with these award-holders and likely associated research users. For each case study, the ESRC-funded principal researcher was interviewed (two for the department study), along with either one or two users.

For three case study projects only, bibliometric methods were also used to assess dissemination - Google was searched for grey literature references to the five individuals highlighted in case studies. In addition, a number of bibliographic databases (ASSIA, PsycINFO, UKOP Online, ZETOC) and the 2001 RAE submissions (esteem indicators) were also searched. Although these particular databases were selected because they were thought more likely to contain applied articles or grey literature rather than academic papers, they provided little additional material to the Google search. In all cases only items dated

---

<sup>2</sup> For full descriptions of the five case studies see Meagher and Lyall (2007).

from 1998 onwards were selected. Overall we found that this method worked reasonably well when searching for outputs from a researcher with a unique name but had significant limitations when searching on a more common name. The results from these searches were included where appropriate in the case studies.

### ***Synthesis of findings***

The conceptual framework and framework of core questions were used to synthesise findings across the various methods. More specifically, the findings were synthesised into three main categories:

- Level of engagement with users and orientation toward knowledge transfer
- Impacts
- Processes, activities and roles leading to impacts.

Evidence about the level of engagement with users was mainly drawn from the end of award reports and survey responses. Evidence about orientation towards knowledge transfer also drew on interview data and focus group discussions.

Initial evidence about impacts was drawn from the survey responses and occasionally from the end of award reports. This was enriched and extended through the media analysis and the case study interviews.

Evidence about the processes, activities and roles leading to impacts drew on all the data collection methods except the media analysis. The case study analysis and the focus group discussions were, however, crucial in fleshing out and refining the findings that initially emerged from the survey and end of award reports.

### **Critical reflections**

#### ***Reflections on methods***

In reflecting on the effectiveness of the approach and methods adopted in this study, we have identified a number of advantages and disadvantages. We believe that these points would pertain more generally to a method that could be applied to other studies of research impacts on policy and practice.

A key strength of this approach was the use of multiple methods, as this made possible triangulation of findings across methods and thus enhanced confidence in the findings. The conceptual framework and framework of core questions facilitated synthesis across methods.

The survey of award-holders worked well – with a 53% response rate – and was able to provide initial data in relation to all our core questions.

The end-of-award reports provided an equally important source of data because we had in effect a 100% "response rate". The reports provided a rich understanding of the research undertaken as well as specific evidence as to knowledge transfer activity and degree of orientation toward connectivity with users. However, the variability in the way in which "impact" was addressed in end-of-award reports meant that extremely close reading was necessary as indicators were described in different parts of different reports. Specifying a standardised knowledge transfer section in such end-of-award reports would make such data-gathering much easier. Moreover, these reports are currently required to be submitted

directly after the end of the award. This timing inevitably means that actual impacts are seldom, if ever, evident. Instead, indirect clues such as connectivity with users or targeted dissemination have to be used as a proxy measure of impact.

The semi-structured interviews with award-holders provided a more detailed understanding of any impacts resulting from the projects. They also provided a more nuanced understanding of issues, knowledge transfer dynamics and the nature of research and users of the discipline. Interviews with users and research-related individuals gave helpful insights and overview perspectives. For example, such interviewees helped to set impacts identified by the survey within a culture and context.

Many of the interviews occurred within the context of a specific case study. These case studies were crucial in illuminating the nature of policy and practice impacts, the processes by which these had occurred, and the lessons that researchers and users had drawn from these experiences. The bibliometric analysis, which occurred within the case studies, was to some extent helpful but problems of identifying and drawing conclusions from such data mean that we would not recommend it as a main method for assessing non-academic research impact

The focus groups of Heads of Departments, although not directly related to the particular awards studied, also provided a broader perspective. This helped the research team to develop an understanding of the discipline's culture and drivers thus providing a context within which the award-holders operate.

There were not any evident contradictions between results obtained by different methods. However the level of detail provided did vary; unsurprisingly, some methods, such as the survey, enabled us to achieve greater breadth of data while others, such as the case study interviews, enabled us to probe the issues in more depth. Nor was it apparent that different channels for impacts were captured by different methods, although the bibliometric analysis necessarily focused on the dissemination of written reports and papers.

We identified three key limitations, two of which related to the remit of the commissioned study. First, the ESRC-imposed focus on responsive mode awards (initiated by individual researchers, rather than themes, programmes or centres) meant there was no special research orientation toward users or "relevant themes"; also, there was no infrastructure (such as centre or programme director's staff tasked with facilitating outreach activities) to promote and facilitate knowledge transfer.

Secondly, the timeframe for impacts on policy and practice is often protracted so there is no guarantee that these would have arisen from these cohorts by the time of this study. For most of the cases observed in this study, most impacts are incremental and, at least in the short-term, more of a step in a process moving toward impact rather than a full-fledged impact. (Such steps can be viewed as one type of "proxy indicator".) Impacts are often localised, rather than national, at least initially. There is likely to be further variability in the degree or speed with which such localised impacts transform into broader impacts (if they do so at all). External forces, such as governmental or political pressures, may open windows of opportunity for uptake of research findings.

Thirdly, the issue of attribution was difficult, as was anticipated. Most research impact processes are complex, diffuse and fuzzy. In most cases it was extremely difficult to attribute with certainty a particular impact to a particular project's research findings. It was often more feasible to attach an impact to a particular researcher's full body of research, as it seemed to be the depth and credibility of an ongoing body of research that registered with users. The users interviewed for this study were not generally aware of a particular ESRC

grant's findings, but rather of a researcher's body of work, which typically comprises several research projects, funded from multiple sources. Changes in practice or policy often appear to stem from a general "awareness raising" or conceptual shift, the causality of which is difficult to pin down. Therefore, precise measurement of the impact of research upon a particular change in policy or practice is likely to be an unattainable goal, although understanding of the framework within which such impacts could happen may well make illustrative examples easier to spot.

### ***Context: culture and attitudes***

Research culture and attitudes shape the encompassing context for research impact, along with societal issues, external influences and the attitudes of potential users toward research use.

A key feature of psychology as a discipline (which may also be true of the other social sciences) is that it is actually a compendium of sub-disciplines, each of which might have the potential to contribute to several diverse sets of users in policy-making and practice. Hence heterogeneity of researchers, policy-makers and practitioners was an important feature.

Perhaps more than in some other social science disciplines, department heads and some overview users characterised psychologists as especially wary of the media, since their research-based knowledge can be trivialised by the media as "common sense". Thus, in order to avoid the appearance of "dumbing down" their work, interaction with the media may be more limited in psychology than in other social science disciplines. Furthermore, psychologists who are willing to comment via the media on current issues are not always respected by their colleagues, many of whom prefer to restrict any media exposure to only their own specific area of research experience. This apparent distaste for media engagement has implications for uptake by policy-makers and practitioners, as media reports are often an accessible way of finding out about research findings.

Although some experienced psychology researchers stress the importance of two-way dialogue and feedback loops, many researchers still seem to see impacts taking place via a (protracted) linear pipeline of: academic research conducted for primarily academic objectives, peer reviewed then published in academic journals; these articles are then perhaps picked up by a few enterprising knowledge intermediaries, policy-makers or practitioners in leadership positions; and then perhaps the findings and their implications become so visibly useful as to be picked up on a broader scale. If this is a widespread perception among the majority of psychologists, and indeed amongst other researchers, then it is particularly important to foster an understanding of alternative models of the research impact process.

Finally, as with all other academic disciplines, the UK's centralised Research Assessment Exercise (RAE), which underpins base funding allocations, focuses psychology departments' and researchers' attentions on achieving academic rather than non-academic impact.

### ***Role of diffuse knowledge intermediaries***

Our initial conceptual framework highlighted two major categories of "knowledge brokers and intermediaries": funders, such as ESRC itself and organisational "knowledge intermediaries", exemplified by professional associations such as the British Psychological Society or the media. In addition, knowledge intermediary functions were found in many cases to be delivered by independent individuals rather than by institutions. Trained usually to PhD level in psychology, such individuals, who may be professional consultants or semi-retired practitioners, have defined or grown into career niches in which they use their expertise to

scan or analyse research findings, then translate it for particular types of users. Other individuals will use their credibility within an area of practice to disseminate research findings to peers; examples from our case studies include taking a leadership role in sharing academics' research results with fellow speech and language practitioners, developing policy-oriented documents citing research, or incorporating recent research results into formal curricular training and/or short courses for practitioners.

The wide range of *individual* knowledge intermediaries reflects once again the heterogeneity of psychology as a discipline and the diversity of its prospective users, as well as a perhaps hitherto unrecognised route through which findings are translated to users. Understanding the diffuse nature of the knowledge intermediary function is important in tracing impacts and may also be a useful first step in developing tactics to improve research impact.

### ***Influences on processes leading toward impacts***

We would echo concerns expressed by others about the value of tracking the impacts of research in the absence of effective strategies that facilitate knowledge transfer and uptake (Davies *et al* 2005). In other words, it may be inappropriate to attempt to measure something which one has not deliberately tried to bring about.

If there is a desire to promote the non-academic impact of research, then it is important to examine those processes that connect researchers with users. Although not part of the remit for this study, in trialling a method to assess research impacts we were able to draw some lessons about the processes that seemed to accelerate research uptake. While these lessons are certainly not definitive, we identified five factors that could have a particular influence on processes likely to lead to non-academic research impacts. We have some confidence in these factors as they not only emerged from this study but they also echo similar findings in the wider literature on research use processes (Nutley *et al* 2007). If one wished to extend the current study further, the existence and effectiveness of these factors could be developed into indicators of a conducive context for research impact activity and some into proxy indicators of the research impact activity itself.

#### ***1. Value placed upon/incentives provided for generation of impact***

Generation of non-academic impacts by academic researchers takes time and effort, but is not sufficiently recognised by current academic reward systems. If generation of non-academic impacts was viewed as valuable it is likely that more effort would be put into processes leading to such impacts.

Barriers exist for academics trying to conduct knowledge transfer themselves and the RAE focus on publication in quality journals is clearly seen as a key obstacle. Survey respondents noted that academic institutions could do much more to incentivise and reward relevant activity in order to address the current misalignment in goals, priorities and timescale between researchers and potential research users.

#### ***2. Two-way interactions between researchers and users***

Impacts are most likely to arise as a result of two-way interactions, characterised by mutual respect, iterative dialogue, long-term relationships and reciprocal benefits to users and researchers. Early interactions can help to frame research questions that are both academically sound and potentially of interest to users; later iterations can help to test preliminary findings; continuing interactions as a body of work accrues can make it more likely that research understanding will make its way into policy or practice.

Barriers to such interaction do not only occur in research communities. Our research respondents sometimes highlighted difficulties in persuading users to engage with research projects or research findings. They urged policy-makers and practitioners to engage in dialogue with researchers, and practitioners were encouraged to keep up to date with research. The Heads of Department focus group also saw a challenge in developing a productive engagement with policy-makers, who sometimes select the “expert” who provides the message they want.

3. *Injections of financial support, dedicated staff, infrastructure*

Respondents and interviewees suggested the need for team approaches and knowledge transfer specialists to help academics contribute toward impacts. Those researchers inclined to connect with users find that little or no funding exists to support the necessary activities. Research impacts also appear to be enhanced by the (funded) contributions of dedicated staff who have the expertise and time to promote it. Impact-generating processes can also be helped significantly by provision of financial or logistical support, dedicated liaison staff and/or infrastructure such as the organisation of interactive events.

4. *Facilitating role(s) of knowledge intermediaries*

Generation of impacts can be accelerated or made more likely when knowledge intermediaries play effective, pro-active roles and are recognised as doing so. Interviews indicated many diverse *individuals* playing roles as knowledge intermediaries, not simply large organisations or the media. Professional organisations and indeed funding bodies themselves can also play a role as knowledge intermediaries.

5. *Communication/increasing accessibility of research*

“Dissemination” of results can be more or less effective in reaching non-academic audiences. To the extent that research findings are communicated clearly, and that they and researchers can be found readily by users and/or knowledge intermediaries (e.g. in practitioner publications or on websites), the probability of connectivity between research and impact can be heightened. Communication in the form of clear translation of robust findings can help to increase user awareness and possible uptake of findings into policy or practice. More broadly, activities or channels which make useful research readily accessible can encourage uptake.

## **Conclusions**

It became apparent from this study that the culture of psychology as a discipline is currently shaped far more by pressures toward academic excellence such as the UK’s Research Assessment Exercise than it is by aspirations toward knowledge transfer and impact beyond academia. Nonetheless, some of the research projects studied did generate impacts on policy and practice. Even more appear to have led to less tangible, conceptual impacts, contributing to a changed awareness regarding particular issues. While most of the capacity-building impacts involve the education of undergraduates, postgraduates and postdoctoral fellows, many of these individuals will leave academia to act as “knowledge intermediaries” or to participate in policy and practice arenas, carrying research understanding with them.

Heterogeneity is as vivid in a portrait of the discipline of psychology as it is in the picture of users adopting research findings – and, indeed, in the diverse sorts of instrumental, conceptual or capacity-building impacts being generated. Given this heterogeneity and the diffuse, long-term nature of impacts on policy and practice, attempts at quantification of some standardised unit of impact outcome is impractical and would constitute false rigour.

Instead, the findings of this study all point to the importance of understanding those *processes* through which research can lead to impacts.

The insights gained (through document analysis, surveys, focus groups, and interviews) together underscore the conclusion that the processes connecting research and impacts can be understood sufficiently to influence them in ways that enhance the likelihood of these impacts. Individual researchers and university managers such as Heads of Department have roles to play in this.

Funding bodies can themselves play a critical role in, effectively, creating a culture shift such that processes leading to policy and practice impacts are better understood, valued and facilitated – whilst at the same time maintaining a national portfolio of ‘blue skies’ research to maintain and expand the knowledge base. The more that funders help to facilitate the process of knowledge transfer, the more indicators of this activity there will be to capture. A useful level of receptivity amongst the academic community seems to exist; for example, this study’s survey, focus group and follow-up with Heads of Psychology Departments have led to their association putting the sharing of good practices in knowledge transfer on their national agenda.

Programme grants or grants to form research centres (which were not included in this study’s remit) might have a greater potential for, and focus on, knowledge transfer. It is therefore heartening to see that even individually-developed responsive mode grants can still achieve a measure of research impact. With deliberate and informed encouragement, more processes may link users with researchers in the future, which could enhance or even accelerate these impacts. However, research funding agencies may need to modify their expectations as to what impact can be achieved with responsive mode grants, as these rarely benefit from the infrastructure associated with programmes and centres.

Research in the social sciences undoubtedly does impact on policy-makers and practitioners. Yet, for all the reasons discussed above, goals of precise quantitative metrics would seem inappropriate: capturing specific impacts and attributing them to *individual* research projects is at best difficult and usually impossible. Our findings concur with those of Molas-Gallart *et al* (2000) who highlight, first, the need to involve both researchers and potential users or beneficiaries in any assessment of the non-academic impact of socio-economic research and, secondly, to adopt a detailed qualitative approach which goes beyond straightforward, quantitative impact analysis. In the interests of accountability, we suggest that it is however possible to find proxy indicators of connectivity with users in the form of steps toward impacts and it is also possible to document some case studies that illustrate tangible impacts. This study has shown that, through qualitative questioning, the processes connecting research with user impacts can be interrogated, examined and improved, so as to deliberately bring about enhanced likelihood of impacts.

## **Acknowledgements**

The authors would like to thank Professor Verity Brown, St Andrews University for her advice during the conduct of the project and for facilitating access to the Association of Heads of Psychology Departments. Thanks are also due to all of the ESRC award-holders, Heads of Psychology Departments and others who contributed to this study. Finally, we would like to acknowledge the role of Veronica Littlewood, formerly of ESRC, in project managing this contract.

## References

- Bechhofer, F., L. Rayman-Bacchus, and Williams, R. (2001), 'The dynamics of social science research exploitation', *Scottish Affairs*, 36, pages 124-155.
- Caplan, N. (1979), 'The two-communities theory and knowledge utilization', *American Behavioral Scientist*, 22(3), pages 459-470.
- Caswill, C. (1994), 'Users and beneficiaries – a discussion paper', ESRC Mimeo (ESRC, Swindon).
- CHSRF (2000), *Health services research and evidence-based decision making*, (Canadian Health Services Research Foundation (CHSRF), Ottawa).
- Davies, HTO, Nutley, SM and Smith PC (2000) *What works? Evidence-based policy and practice in public services* (Policy Press, Bristol)
- Davies, HTO., Nutley, SM. and Walter, I (2005), *Approaches to assessing the non-academic impact of social science research* (Report of ESRC Symposium, on assessing the non-academic impact of research, 12-13 May 2005, Research Unit for Research Utilisation, University of St Andrews).
- ESRC Knowledge Transfer Guide*, [www.esrc.ac.uk](http://www.esrc.ac.uk)
- Faulkner, W. and J. Senker (1995), *Knowledge Frontiers: public sector research in industrial innovation in biotechnology, engineering ceramics and parallel computing* (Clarendon Press, Oxford).
- Hanney SR, Gonzalez-Block MA, Buxton MJ and Kogan, M. (2002), *The utilisation of health research in policy-making: concepts, examples and methods of assessment* (Report to the World Health Organisation, Health Economics Research Group, Brunel University Uxbridge).
- HM Treasury (2007), *Meeting the aspirations of the British people* (2007 Pre-Budget Report and Comprehensive Spending Review, October 2007, Cm 7227, The Stationery Office, London).
- Lambert Review of Business-University Collaboration (2003) [www.hm-treasury.gov.uk/consultations\\_and\\_legislation/lambert/consult\\_lambert\\_index.cfm](http://www.hm-treasury.gov.uk/consultations_and_legislation/lambert/consult_lambert_index.cfm)
- Lavis, J., Ross, S., McLeod, C. and Gildiner, A. (2003), 'Measuring the impact of health research', *Journal of Health Services Research and Policy*, 8(3), pages 165-170.
- Lomas, J. (2000) 'Using 'Linkage and Exchange' to move research into policy at a Canadian foundation', *Health Affairs*, 19(3), pages 236-240.
- Lyall C., Bruce A., Firn J., Firn M., and Tait J. (2004), 'Assessing end-use relevance of public sector research organisations', *Research Policy*, 33(1), pages 73-87.
- Meagher, L. M. and Lyall, C. (2007), *Policy and Practice Impact Case Study of ESRC Grants and Fellowships in Psychology* (Report to ESRC, June 2007).
- Molas-Gallart, J., A. Salter, et al (2002), *Measuring Third Stream Activities* (SPRU, Brighton).



Molas-Gallart, J., Tang, P. and Morrow, S. (2000), 'Assessing the non-academic impact of grant-funded socio-economic research: results from a pilot study', *Research Evaluation*, 9(3), pages 171-182.

Molas-Gallart, J., P. Tang, *et al* (1999), *Assessing Research Impact on Non-Academic Audiences* (Report to ESRC, Swindon).

Nutley, S., Walter, I. and Davies, H. (2007), *Using Evidence. How Research can Inform Public Services* (Policy Press, Bristol).

RCUK (2007) RCUK's Delivery Plan and Scorecard (Updated for 2007/08)  
[www.rcuk.ac.uk/aboutrcuk/deliveryplan](http://www.rcuk.ac.uk/aboutrcuk/deliveryplan)

RELU (2007), *Common knowledge? An exploration of knowledge transfer* (Rural Economy and Land Use Programme Briefing Series No. 6, June 2007, RELU, Newcastle).

Research Councils' Economic Impact Group (2006), *Increasing the Economic Impact of Research Councils* ("the Warry Report"). July, 2006.

Research Councils UK (2007) *Excellence with Impact: Progress in implementing the recommendations of the Warry Report on the economic impact of the Research Councils* (RCUK, Swindon).

SFC (2007) *Knowledge Exchange on Public Policy in Scotland* (Scottish Funding Council, Edinburgh)

**Table 1: Aims and objectives of study**

To identify ways in which results from ESRC funded research projects and fellowships have been utilised and applied by policy-makers and practitioners
To identify how the research has influenced policy formation and development
To identify how ESRC's research has influenced changes in professional practice within the public and the private sector
To identify examples of impact achieved
To provide a critical reflection on the methods used to assess and identify impacts

**Table 2: Framework of core questions**

### **I. Primary Knowledge Producers**

- A. Which of the researchers have seen their research lead to impacts? How can they be characterised? (e.g. sub-discipline, institution, location) Was the particular ESRC project part of a wider, longer-lasting research programme? Has additional funding been received from ESRC? Other funders (e.g. support/self-help groups)?
- B. What were key research objectives (e.g. basic or applied topics)?
- C. What user engagement, dissemination, knowledge transfer, objectives did they have/address? How? At what stages? Were there "human vectors" (e.g. students, academic staff movement, user visits)?
- D. What specific contacts/users can be identified?
- E. In what networks or communities involving potential users (where impacts might be felt) do researchers feel involved?

### **II. Knowledge Users, Beneficiaries, Brokers & Intermediaries**

- A. In terms of policymakers, who – specifically and by "type" – has been involved as users? In what way?
- B. In terms of practitioners, who – specifically and by "type" – has been involved as users? In what way?
- C. What wider publics have been involved or affected as beneficiaries? In what way?
- D. What knowledge brokers or intermediaries – specifically and by "type" – have been involved? In what way?

### **III. Impacts of Psychology Research (Outcomes)**

- A. What examples exist of actual, specific, "instrumental" impacts, including but not limited to capacity-building (training)?
- B. What examples exist of "conceptual" impacts, such as enlightenment effects (awareness raising) or cultural change?
- C. Can impacts be clustered within types or categories, within particular contexts?
- D. As outcomes, how has the research directly or indirectly influenced policy formation and development?
- E. As outcomes, how has the research directly or indirectly influenced changes in professional practice within the public and the private sector?

### **IV. Research Impact Processes**

- A. What activities appear to have brought about research impacts, in policy or practice? (e.g. briefing papers/targeted publications, workshops, series of seminars/meetings, reciprocal visits, CPD)
- B. What factors and/or facilitating contexts shape the effectiveness of research processes leading to impacts? What are the relative roles of the individual (researcher, policymaker, practitioner) and the organisation within which he or she operates?
- C. Do intermediary infrastructure organisations exist which facilitate or enhance the likelihood of impacts? (e.g. a professional society which brings together researchers & users in CPD or shared conferences)
- D. What factors shape stages in the dynamics of research processes leading to impacts, as they take place over time?
- E. Are there identifiable desirable mechanisms or ways in which research has been and can be utilised and applied by policymakers?

- F. Are there identifiable desirable mechanisms or ways in which research has been and can be utilised and applied by practitioners?

## **V. Lessons Learned & Recommendations**

- A. What key issues exist in the generation of research impacts?  
B. What lessons have been learned regarding enhancement of the effectiveness of linkages and flows of knowledge leading to research impacts?  
C. What recommendations could help
- researchers (and their institutions)
  - knowledge brokers & intermediaries
  - policymakers
  - practitioners
  - wider public beneficiaries

## **VI. Methods for Identifying and Assessing Non-academic Research Impacts**

- A. What insights arise from critical reflection on methods used?  
B. To what extent could these methods (or insights from them) be “generalised” to future assessment of non-academic research impacts

**Figure 1: Flows of Knowledge, Expertise and Influences: A Conceptual Framework for Research Impact Assessment**

